

# **NUCLEAR MATERIAL STABILIZATION AND DISPOSITION (RL-0011)**

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Preparing the Containment Tent over the  
241-Z D-4 Vault to Support the Vault  
Decontamination and Characterization Work



## **OVERVIEW**

This section addresses work in Project Baseline Summary RL-0011, *Nuclear Material Stabilization and Disposition*.

NOTE: Unless otherwise noted, all information contained herein is as of the end of May 2004.

## **NOTABLE ACCOMPLISHMENTS**

### **DISPOSITION SPECIAL NUCLEAR MATERIAL (SNM)**

FH completed fabrication and delivery of 5 of 14 Interim Storage Vaults, which will be used to temporarily store fuel from five Interim Storage Casks (ISCs) before returning the empty ISCs to the Fast Flux Test Facility.

### **SNM STABILIZATION**

Through May 27, 2004, all 358 3013 outer containers identified as having excess weld porosity have been opened and repackaged as planned.

### **DISPOSITION THE PLUTONIUM FINISHING PLANT (PFP) FACILITY**

Plutonium holdup material removal activities continued in glove boxes MT-3 and MT-1 in the 236-Z facility and in glove boxes HA-7A, HA-21I, HA-21A, HA-14, and HA-18M in the 234-5Z facility. This effort continued in support of an early completion of the third increment of ten for the legacy plutonium holdup removal, which is scheduled for a late-June completion.

Walk-downs continued in the 234-5Z building Material Access Area (MAA) this period in RMA/RMC-line glove boxes and the 26-inch process vacuum line. The walk-downs contributed to designating an additional 12 RMA/RMC-line glove boxes to the 'E' attractiveness category and an additional 9 glove boxes to the 'D' attractiveness category. Since "E" is the least-safeguarded category, these actions support the reduction of the MAA within 234-5Z so that only the 192 vaults require MAA controls.

Final preparations have been completed to begin demolition of Mobile Offices 834/839 and the Quonset Hut (234-ZB) in early June. Removal of MO-264, and demolition of 234-ZC, later this summer will satisfy the initial Performance Incentive increment that will ultimately bring a total of ten PFP facilities to slab-on-grade by September 2005.

FH comments have been incorporated into the 232-Z Removal Action Work Plan (RAWP) and have been submitted for final review to RL and the regulators. All external comments are expected by the first of June. The RAWP addresses management of the project under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, and must be approved by RL and the lead regulator (the State of Washington Department of Ecology). It includes the Air Monitoring Plan, Waste Management Plan, Quality Assurance Project Plan, and site specific Health and Safety Plan.

With RL approval of the Justification for Continued Operations at 232-Z, and concurrence from the Department of Health, non-fissile work was resumed in mid-April which allowed for the removal of asbestos from the 232-Z change room and chemical mix room. Additionally, the pogo pump and stand were removed from the chemical mix room. Other cleanout activities allowed this room to be down-posted to a Radioactive Material Area status. Additionally, five drums of waste were removed from the process room.

## NOTABLE ACCOMPLISHMENTS, CONTINUED

Discussions with RL continue regarding the 232-Z Data Quality Objective and 232-Z Sample Analysis Plan and Non-destructive Assay (NDA) pedigree concerns. FH is currently resolving RL comments, which is expected to be completed in the mid-July timeframe.

## ISSUES

SNM De-inventory Delay: RL's direction to delay the PFP SNM de-inventory will require a major revision of the PFP Closure Project baseline, including Performance Incentive objectives. Completion of the baseline adjustment is planned for submittal to RL in July 2004.

## FY 2004 FH FUNDS VS. SPEND FORECAST (\$000)

	FY 2004 Anticipated Funding w/Carryover	FY 2004 Fiscal Year Spend Forecast	Variance
Nuclear Materials Stabilization & Disposition	\$ 164,747	\$ 151,070	\$ 13,677

The Fiscal Year Spend Forecast reflects the RL-directed two-year delay in SNM de-inventory as well as the disposition of fuel stored at PFP. The current forecast indicates the following factors contributed to the forecasted positive funding variance: delayed staff ramp-up supporting deactivation and decommissioning (D&D) activities, delayed use of consumables supporting delayed D&D, a delay in issuing subcontracts, and the corresponding decrease in overheads.

## FY 2004 SCHEDULE/COST PERFORMANCE (\$K)

	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance \$	Schedule Variance %	Cost Variance \$	Cost Variance %	Budget At Completion
Nuclear Materials Stabilization & Disposition	109,589	85,655	87,816	-23,934	-22%	-2,161	-3%	172,859

Numbers are rounded to the nearest \$K and include the closure services allocation.

**Schedule Performance (-\$23,934K/-22%):** Primary contributors to the negative schedule variance are:

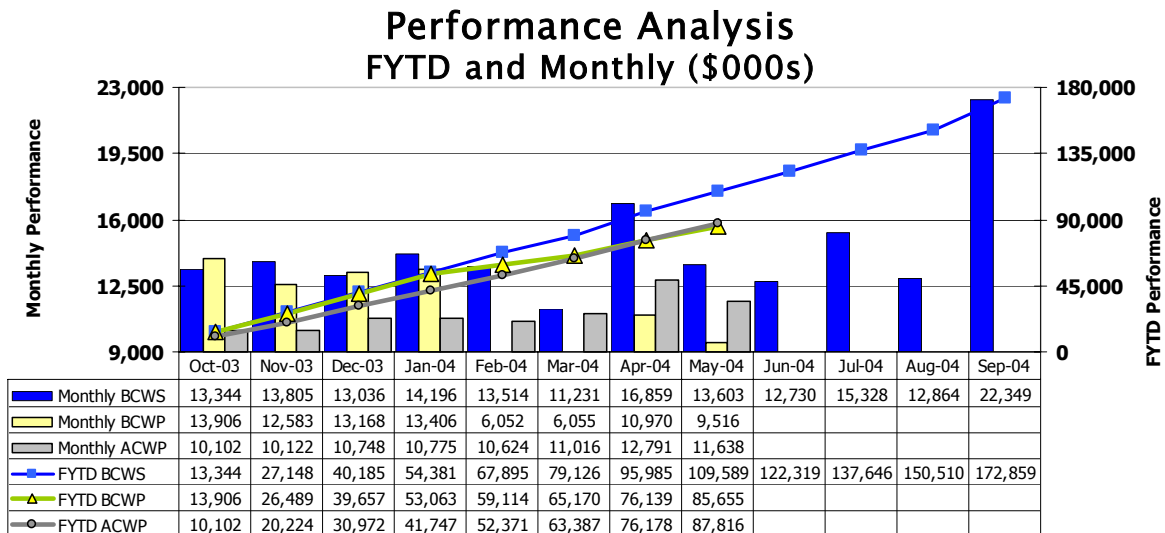
- Delayed shipment of SNM to Savannah River and associated procurement of shipping containers due to unavailability of safe and secure transports and approval of the Record of Decision for shipment (-\$5.8M);
- Delayed solid waste disposal due to slowed D&D work (-\$2M);
- Delay in staff ramp-up and Tank D-5 liquid waste transfers which impact D&D work along with technical issues on portable NDA plutonium holdup measurements, delayed procurements/materials (e.g., robotics for 236-Z canyon floor, lack of consumables for D&D), and document safety analysis (DSA) implementation issues which further impact D&D activities (-\$10.7M);
- Difficulties associated with 232-Z deactivation (-\$1.8M);
- Transition Operation Support earned value apportioned to delayed D&D work scope (-\$2.8M); and
- Safety Analysis Implementation behind schedule (-\$0.5M).

The baseline adjustment is currently being prepared to revise the baseline consistent with the now-directed one-year delay in SNM de-inventory, which also includes use of commercial shipments for de-inventory and changes in the fuel de-inventory path forward, overall staffing ramp up delays, and directed funding adjustments.

## FY 2004 SCHEDULE/COST PERFORMANCE, CONTINUED

**Cost Variance (-\$2,161K/-3%):** The unfavorable cost variance is the result of several favorable variances offsite by a noted unfavorable variance in D&D work. Specifically, favorable variances occurred from the early completion of the plutonium stabilization activities (\$2.5M); efficiencies in surveillance and maintenance (\$.9M); reduced dosimetry and medical costs due to delay in staff ramp-up (\$.4M); reduced labor cost due to Senior Management transfers (\$.2M); and revenue and work transfers in Closure Services (\$.6M). These favorable variances were off-set by increased costs associated with plutonium shipping operations (-\$1.4M); apportioned-effort work scope in D&D project management, and increased D&D costs resulting from portable NDA plutonium holdup measurement issues and DSA implementation impacting D&D progress (-\$4.4M) at PFP.

Improvements in plutonium shipping operations and packaging shipping containers are expected as routine packaging operations are established and once authorization to ship is obtained. Slowed progress in D&D activities will recover upon resolution of the portable NDA plutonium holdup measurement issue and DSA implementation.



## MILESTONE ACHIEVEMENT

Milestone Title	Type	Due Date	Actual Date	Forecast Date	Status/Comments
Complete Stabilization and Packaging of Polycubes	DNFSB	3/31/03	2/28/03		Complete
Submit Facility End Point Criteria Document to Ecology	TPA	9/30/03	9/30/03		Complete
Submit to Ecology a PFP Residual Chemical Hazards Assessment	TPA	12/31/02	12/27/02		Complete
Submit Closure Plan for 241-Z Waste Treatment Facility TSD Unit to Ecology	TPA	7/31/03	7/25/03		Complete
Completion of all Plutonium (Pu) Stabilization & Packaging	PI	2/18/04	2/12/04		Complete
Complete Repackaging of PFP Residues and Ship to Central Waste Complex (CWC)	TPA	4/30/04	3/11/04		Complete
Discontinue Waste Discharges from the 241-Z Tanks to Tank Farms	TPA	6/30/05		6/30/05	On Schedule
Special Nuclear Material Transferred to Savannah River Site or DOE Approved Interim Storage	PI	9/30/05		9/30/07	DOE has notified FH that the current shipping schedule will not be met.
Legacy Pu Holdup Removed & Dispositioned	PI	9/30/05		9/30/05	On Schedule
Complete 100% of Legacy Pu Holdup Removal & Disposition	TPA	9/30/06		9/30/06	On Schedule
Complete Transition & Dismantlement of the 232-Z Bldg Incinerator	TPA	9/30/06		9/30/06	On Schedule
Protected Area Eliminated	PI	12/31/05		12/31/07	Protected Area elimination will not be met due to delayed de-inventory
PFP Facilities (61 Buildings) Ready For Demolition	PI	9/30/06		TBD	Demo ready of 61 buildings will not be met. Two year SNM de-inventory delay, and funding reduction has necessitated a re-sequencing of D&D work scope.